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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/734,162

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Ji Yong Park

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EXAMINER

KIM, JAY C

ART UNIT

PAPER NUMBER

2815

MAIL DATE

DELIVERY MODE

01/15/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/734,162	Applicant(s) PARK ET AL.	
	Examiner JAY C. KIM	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 and 12 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/3/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the Amendment filed October 22, 2008.

Claim Objections

1. Claims 1 and 7 are objected to because of the following informalities: on line 6 of claim 1 and on line 8 of claim 7, "shorter" should be replaced by "smaller", because "a width" would be a number, which cannot be "shorter". Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-5, 7 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Oka et al. (US 6,184,541).

Regarding claims 1, 4, 5, 7, 10 and 11, Oka et al. disclose a thin film transistor (TFT) (Figs. 1a and 1b) comprising a lightly doped drain (LDD) region (portion of region 4 included in width "d" on the right side) and a plurality of primary crystal grain boundaries 2 (boundaries perpendicular to current direction), wherein the thin film transistor is formed so that the primary crystal grain boundaries of a polysilicon substrate 3 are positioned in channel 8, source 6, and drain 7 regions, but not positioned in the LDD region, and wherein a width of the LDD region (portion of region 4

Art Unit: 2815

included in width "d"), included in an activation layer (composite layer of 6, 7 and 8), is smaller than a distance between the primary crystal grain boundaries (2) (for example, a distance between two primary crystal grain boundaries wherein one primary crystal grain boundary is selected from each region 5). Regarding claims 4, 7, 10 and 11, Oka et al. further disclose the TFT may be used in an LCD display. Note that the portion of region 4 denoted by the width "d" can be considered the LDD region, since the other portion of region 4 was doped with additional impurities during heat treatment (col. 3, lines 60-66). Therefore, the other portion of region 4 would no longer be considered "lightly doped". Also, the portion denoted by width "d" could at least be considered "an offset region".

Regarding claims 3 and 9, the limitation "the polysilicon substrate is formed by sequential lateral solidification (SLS)" is merely a product-by-process limitation that does not structurally distinguish the claimed invention over the prior art. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966.

Allowable Subject Matter

4. Claims 6 and 12 are allowed.

Response to Arguments

5. Applicants' arguments filed October 22, 2008 have been fully considered but they are not persuasive.

Applicants argue that “there is no teaching or suggestion in Oka that the other portion of the low concentration region 4 is additionally doped with impurities, as suggested in the Office Action”. Oka et al. clearly show impurities 14 in Fig. 1(b) (col. 3, line 60) whose diffusion was restrained by a grain boundary parallel to the gate electrode 10 (col. 3, lines 63-65). Further, Oka et al. refer to "d" as “an effective length” of the low concentration region (col. 3, lines 65-66), which suggests that the portion of region 4 included in width "d" is an effective low concentration region. Still further, the portion denoted by width "d" could also be reasonably considered "an offset region", because Applicants do not specifically claim what “an offset region” refers to.

Conclusion

6. Applicants' amendment necessitated the new ground of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2815

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAY C. KIM whose telephone number is (571)270-1620. The examiner can normally be reached on 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. K./
Examiner, Art Unit 2815
January 13, 2009

/Jerome Jackson Jr./
Primary Examiner, Art Unit 2815